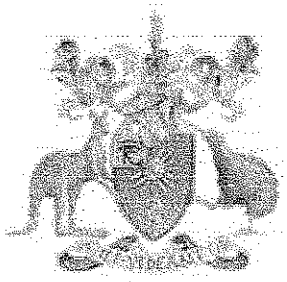

RANZCO
OPHTHALMIC PATHOLOGY EXAMINATION
SEMESTER 1 2010

PAPER 1
FRIDAY 12 MARCH 2010

INSTRUCTION TO CANDIDATES

- You are now sitting Paper 1 of the Semester 1 2010 RANZCO Ophthalmic Pathology Examination.

- This examination paper, Paper 1, consists of TWO parts, Part A & Part B.
  - There are FOUR questions in Part A, and EIGHT questions in Part B.
  - Within each Part, the questions are of equal value.

- The duration of this examination is 2.5 hours.
  - Examiners recommend that you allocate 30 minutes to answering Part A, and 2 hours to Part B.

- Write your answers to the questions in the writing pad provided to you.

- You MUST write your exam number in the box at the top right hand corner of EVERY PAGE on which you write your answers.

- Neither your name nor any evidence of your identity must appear on any part of the writing pad.

- You must number your answers clearly.

- Do not write your answer on the reverse side of any page.

- You may use pages of the answer pad for writing notes. Notes must be crossed out. Whatever you cross out the examiners will not mark.

- Please use black pen for your answers to facilitate photocopying.

- Write legibly so that so that examiners can understand your answers and give you full credit for them.

- If you wish to leave the Examination early, you must inform the Invigilator.

- To eliminate the possibility of disturbance candidates will not be allowed to leave an examination room during the first thirty minutes of the examination, and the last twenty minutes of the examination.

- At the end of the examination, please leave ALL examination material (question paper, writing pad, paper for scribbling notes, etc) on your desk.

PAPER 1 PART A

Question 1:
Using the Rb gene as an example, outline the role of tumour suppressor genes in neoplasia.

Question 2
Describe the growth factors and receptors important in angiogenesis.

Question 3
Describe the process of healing by scar formation in the skin.

Question 4
a) Describe the histopathological appearance of neutrophils. Include the features that distinguish them from other cells.
b) Describe their role in acute inflammation.

PAPER 1 PART B

Question 1
A 72 year old European woman presents complaining of several months of gritty painful eyes, and painful mouth with difficulty eating. On examination you note subepithelial scarring with shallowing of the fornices and formation of fibrous bands with symblepharon. Her mouth contains one blister at the gum line.

a) What is your diagnosis?
b) What specimen should you send to the laboratory, and how should it be sent?
c) What tests should the laboratory perform on the specimen to make a diagnosis?
d) If the diagnosis is what you suspect, what will these tests show?

Question 2
A 65 year old patient presents with a chronic limbal nodule with a gelatinous appearance, a papillomatous vessel pattern, overlying keratin deposition (leukoplakia), and prominent feeder vessels.

a) Describe how you would perform ocular surface cytology on this patient, and how the specimen should be submitted.
b) List the advantages and disadvantages of ocular surface cytology vs. biopsy for ocular surface squamous neoplasia (OSSN).
c) What features on the cytology slide would lead the pathologist to make a diagnosis of ocular surface squamous neoplasia?

Question 3
Describe the clinical and histopathological features, and comment on the biological behaviour of:

a) Sebaceous carcinoma of the eyelid.
b) Merkel cell carcinoma of the eyelid.

Question 4
a) Outline the clinical appearance, genetics and histopathological features of corneal granular dystrophy.
b) List and describe the appearances of the histochemical stains that may be utilised to differentiate corneal stromal dystrophies.

Question 5
Highlight the possible short term and long term complications of a penetrating intraocular injury from a foreign body composed of iron.

Question 6
a) List the causes of leucocoria in a child.
b) Describe the clinical and histopathological features of Coats disease.

Question 7
Explain the pathogenesis and describe the macroscopic and microscopic appearance of Peters' anomaly.

Question 8
A biopsy from the orbit of a 3 year old boy reveals a tumour composed of sheets of pleomorphic, mitotically active round cells, spindle shaped "tadpole cells" and strap cells with hyperchromatic nuclei and eosinophilic cytoplasm on routine Haematoxylin and Eosin light microscopic histopathology.

a) List a differential diagnosis for the tumour.
b) List ancillary laboratory techniques which may be utilised to establish a definite diagnosis.
c) Outline the findings for each of these techniques for the most likely diagnosis.